

NEW ZEALAND

Innovation is central to meeting the ongoing challenge of boosting New Zealand's productivity growth to raise income per capita. The innovation system has been shaped by the country's features: its relative geographic remoteness, small size, demanding physical topography, and focus on exploiting natural resources. A more innovative economy requires an excellent business environment, robust steering and financing mechanisms for the public research system, and strong domestic and international networks for knowledge flows.

The share of gross domestic expenditure on R&D (GERD) in GDP has changed only slightly over the past decade. At 1.16% (about half the OECD average of 2.26%), New Zealand is in the bottom third of OECD countries on this measure. Business expenditure on R&D (BERD) has grown, but at 0.49% of GDP, remains below the OECD average. New Zealand's industrial structure, with a strong contribution from the agriculture, forestry and fishing sector and a relatively small manufacturing sector, may contribute to low R&D intensity, as innovation that is not based on R&D or other technically challenging activities may not be captured by the available quantitative indicators.

The development of skilled, adaptable human resources for science and technology is vital for New Zealand. Their share in total employment is below the OECD average, although the number of researchers (full-time equivalent) almost doubled from 1999 to 2005 and their share in total employment now exceeds the OECD average. New Zealand differs from some leading OECD countries in awarding more science degrees than engineering degrees.

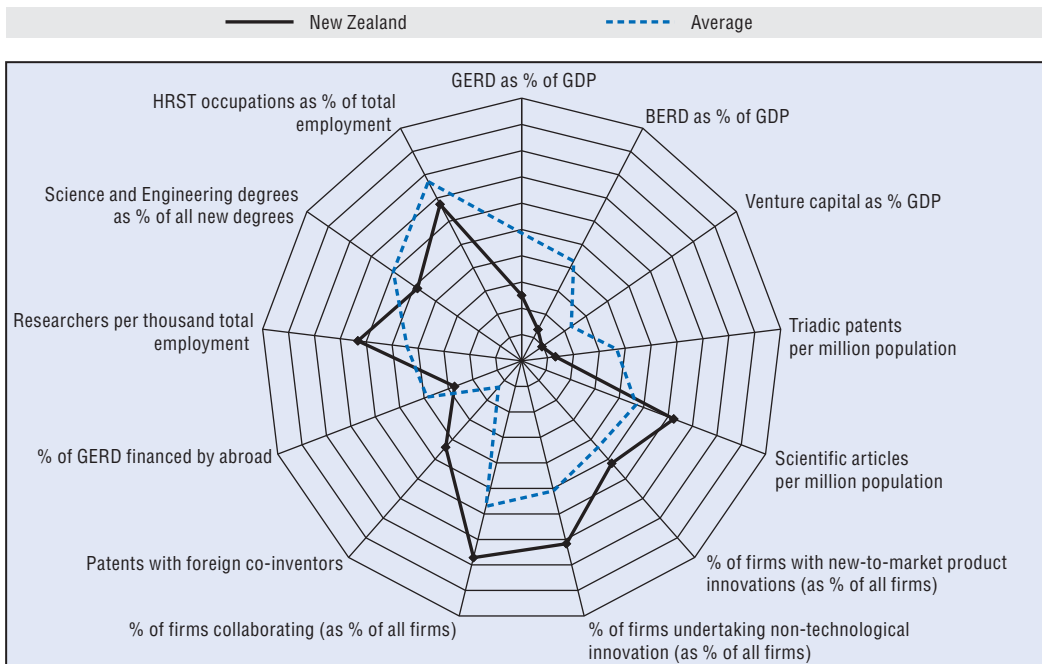
Skilled immigrants make an important contribution to the workforce: some 30% of university-qualified people were born overseas.

New Zealand's performance with regard to research outputs is mixed. Triadic patent family activity is well below the OECD average, as is the share of high- and medium-high-technology industries in patent activity. However, the biotechnology sector is rapidly accumulating patentable knowledge in several important market niches, and scientific publications per capita are well above the OECD average. International co-operation on innovation by firms is also strong.

More than in many other OECD countries, the government plays a major role in the innovation system; it finances more than 40% of investment in R&D and owns significant science infrastructure. Following the 2007 *OECD Review of Innovation Policy: New Zealand*, the government is developing policy initiatives to support business R&D and make the public sector's contribution more effective, with the introduction of a R&D tax credit and a "stable funding initiative" to improve the certainty of publicly funded research programmes.

Looking ahead, important policy issues include ways to improve international links and access to knowledge in overseas markets and to help firms to succeed in areas of current strength and in emerging industries. Improving the availability of broadband Internet, and enabling low-technology sectors to improve productivity by applying advanced science and technology, are also important areas for consideration.

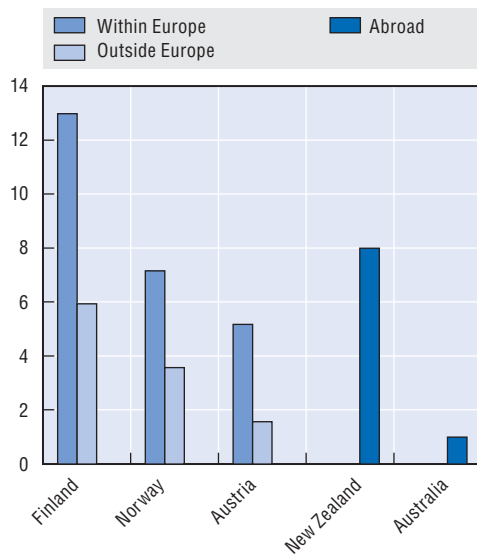
Science and innovation profile of New Zealand



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Firms with foreign co-operation on innovation, 2002-04 (or nearest available years)

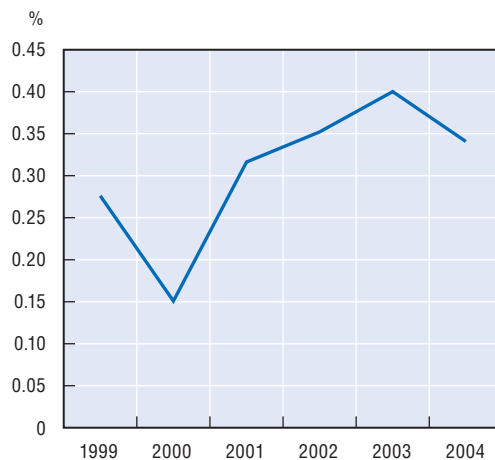
As a percentage of all firms



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New Zealand's share of world biotechnology patent applications to the European Patent Office

Percentage share



StatLink <http://dx.doi.org/10.1787/453508282742>

Chapter 3

Science and Innovation: Country Notes

This chapter complements Chapters 1 and 2 by providing an individual profile of the science and innovation performance of each OECD country, as well as observers to the OECD Committee on Science and Technology Policy (Brazil, Chile, China, Israel, Russia and South Africa), in relation to their national context and current policy issues. The graphs enable countries to see some of their relative strengths and weaknesses as compared to other countries' performance.

The common indicators in the first (radar) graphs were selected on the basis of current policy issues. They focus on research and innovation inputs, scientific and innovation outputs, linkages and networks, including international linkages, and human resources. A standard set of indicators is used; however, when data are not available, alternative indicators may be applied. The annex provides a full list and description of the indicators, methodological notes and data sources.

For each indicator in the radar graph, the country with the maximum value is set at 100, taking into account all OECD and non-OECD countries with available data. The average is calculated by taking into account all OECD countries with available data (non-OECD countries are excluded from the average). The annex provides further details.

The radar graphs are accompanied by country-specific figures that further illustrate national characteristics and underpin policy-specific comments. The selection of comparator countries in these graphs aims to highlight the general position of the focal country and, in some instances, data on other countries may also be shown.

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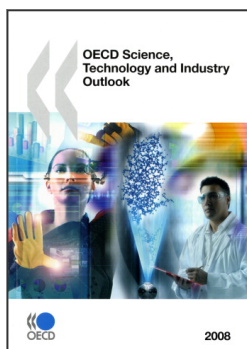
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